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Editor - Captain L. B. Marshall, MC, USN (RET)

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The U. S. Navy Medical News Letter is basically an official Medical Department publication inviting the attention of officers of the Medical Department of the Regular Navy and Naval Reserve to timely up-to-date items of official and professional interest relative to medicine, dentistry, and allied sciences. The amount of information used is only that necessary to inform adequately officers of the Medical Department of the existence and source of such information. The items used are neither intended to be nor susceptible to use by any officer as a substitute for any item or article in its original form. *All readers of the News Letter are urged to obtain the* original of those items of particular interest to the individual.

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Celiac Disease

Since its first description by Gee in 1888, celiac disease has remained a baffling problem, which laboratory investigation has done little to solve. It is true that laboratory tests must often be used to exclude other disorders which may resemble celiac disease, but there is no specific test which places the diagnosis of celiac disease beyond all doubt. The diagnosis remains fundamentally a clinician's problem, and treatment is, in the main, a matter of clinical trial.

Even the name tells little, and yet to use in its place the term "celiac syndrome" has little to recommend it. Use of this term tends to group together conditions which on clinical and laboratory grounds are readily distinguished (for instance, pancreatic fibrosis and the steatorrhea that may be associated with tuberculous mesenteric adenitis or Giardia intestinalis infection) while throwing doubt on whether the clinical entity of celiac disease has, in fact, a separate existence.

The children are born seemingly healthy and at first thrive normally. In England most cases begin between 6 months and 2 years of age, at a time when the diet is changing from one of milk to a variety of foods. Not infrequently an attack of gastroenteritis may mark the onset. According to Andersen and di Sant' Agnese, half the cases in New York have an earlier onset, within the first 6 months of life, some actually dating from birth. This perhaps may be explained, to some extent, by the shorter period of breast feeding in that city, and the earlier introduction of mixed feeding to American children than to their British counterparts.

Vomiting at the onset is fairly common, but does not remain a prominent symptom. From an early stage, loss of appetite is a striking feature. The weight ceases to rise, the temperament changes to one of peevishness and irritability, and the bowel movements increase to about 4 or 5 daily and

become loose, unformed, offensive, and light in color. If the condition is suspected at this early stage instead of being dismissed as a teething phenomenon or regarded vaguely as a dyspepsia of some sort, then without having recourse to laboratory investigations, a trial on a diet corrective for celiac disease should be made promptly. At this stage a satisfactory response to dieting can be expected with confidence and, incidentally, such a response could be considered confirmative of the early diagnosis.

Until efficient treatment is instituted, the disease--which is in no way self-limited--will steadily progress, leading eventually to profound emaciation. The child is the picture of misery; the muscles become toneless and flabby, and anemia--usually hypochromic, but occasionally megaloblastic and responsive to folic acid--may reach a severe degree.

In comparison with the wasted limbs, the distention of the abdomen is very obvious. The soft, toneless abdominal wall makes palpation easy, and almost invariably the liver is strikingly small. Normally, in a young child, the lower border of the liver is easily felt a full fingerbreadth below the costal margin; but in celiac children, the liver may be entirely out of reach behind the costal cartilages, or perhaps just felt in the xiphisternal notch. The smallness of the liver, first pointed out by Still, is a clinical point of some importance, because it helps to distinguish these children from those with other forms of chronic indigestion or from those suffering from steatorrhea for other reasons.

The dietetic objective is to establish a celiac child on a gluten-free diet. In a mild or early case, this may be a simple matter, because it simply entails the avoidance of wheat or rye protein. In England, the Energen Foods Company, Ltd., separates wheat flour into its protein and starch components in the course of preparing their particular food commodities. They are able to make available for celiac children the whole wheat starch which, by means of special recipes, can be made into bread, biscuits, and cakes, thus taking the place of whole wheat flour. Such recipes are necessary because in the absence of gluten, a wheat starch loaf would crumble to pieces unless some substitute for the binding properties of gluten were used. Its place is taken by fat (margarine) and milk. If the early symptoms are recognized and a strictly gluten-free diet is instituted at that stage, with the child still in his own home, rapid improvement should follow, and the downward trend should be prevented.

When celiac disease has already reached a severe degree, the problem is more complex. A gluten-free diet remains the objective, but a month or more of skillful nursing and feeding may be required before this stage can be reached. To begin with, the diet may have to consist of such simple foods as skimmed protein milk, glucose, and banana puree. If the stools are frequent and watery, the addition of a pectin preparation may be advantageous. In the most severe cases, it may even be necessary to spend the first day or two in overcoming dehydration and a lowered plasma protein level by intravenous fluid therapy.

As the child improves, such foods as chicken, egg custard, and biscuits made from soya flour are gradually added to the simple diet outlined. The skimming of the milk is meanwhile progressively diminished. The addition of fruit and foods made with wheat starch comes next, and finally flours that do not contain gluten, such as rice, potato, and maize flours, are added. Care must be exercised in this last stage, for if given too soon these flours may give rise to abdominal discomfort, in which case their employment should be deferred for a fortnight or so. As soon as the child has been restored to a full diet, devoid only of gluten, he is ready to return home from the hospital. Of course, the diet must be supplemented with adequate vitamins.

An obvious question to ask is how long a gluten-free diet should continue; but because the diet has only been employed some 3 years, the answer cannot yet be supplied. The reply will depend to some extent on what one is trying to achieve. Already the mortality from celiac disease has been reduced to the vanishing point.

The fact remains that for celiac children in England, the use of a gluten-free diet has entirely altered the outlook. It is no longer a killing complaint; the period of stay in the hospital has been greatly reduced; the change from a wasting and miserable child to one growing and happy takes place in a few weeks; and the dietetic requirements to bring about these results are both simple and cheap and can be carried out without difficulty in the child's home. (Postgraduate Medicine, Jan. 1954, W. Sheldon, King's College Hospital, London, England)

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Hodgkin's Specific Cells in Bone Marrow Aspirations

Although it has been well documented and is now generally accepted that Hodgkin's disease may affect the entire reticuloendothelial system, it is of interest that Sternberg-Reed cells are rarely found in smears of bone marrow aspirate. The paucity of such observations (none in the English literature) and the lack of satisfactory accompanying photomicrographs prompt this report. It is of additional interest that the 2 patients on whom data are reported had a common course, common symptoms, and a common response to treatment.

Involvement of bones, though not recognized early, is now widely appreciated.

Varadi reported finding Sternberg-Reed cells in the marrow of a man aged 39 years in whom the diagnosis of Hodgkin's disease was confirmed by necropsy. The patient followed a short, intermittent febrile course similar to that of the 2 patients reported. The photomicrographs, though not good, were suggestive.

Klima has described the "lymphogranuloma Zellen" which he considers specific. Leitner believes it may be a plasma cell which it appears to resemble greatly.

Weber and Huber found clusters of cells in a syncytium in a proved case of Hodgkin's disease. These cells had round, equal nuclei about 7 μ in diameter, all containing nucleoli. The cytoplasm was gray-blue. Again, from the description and illustration, it is difficult to exclude the possibility that these were somewhat atypical plasma cells, which are so prevalent in the bone marrow in this disease.

Kienle apparently found specific cells in the bone marrow in 5 of 25 cases. These were characterized by nuclear fragments staining bluish red by the usual Giemsa method and containing large purple nucleoli. The cytoplasm was bluish, scanty, occasionally vacuolated, and did not contain granules. Large mononuclear cells with reticular nuclei and small nucleoli were also noted.

In contrast with the frequency of these findings in Kienle's series is the experience of Limarzi and Paul, who found no Sternberg-Reed cells in 35 cases of Hodgkin's disease in which sternal aspiration had been performed; Cooper and Watkins, who found none in 13 cases; Weil, Isch-Wall, and Perlès, who found none in 20 cases; Morrison and Samwick, who found none in 22 cases; Falconer and Leonard, who found none in 14 cases; Leitner, none in 9 cases, and Dameshek, none in 6 cases so studied.

De Leeuw and Cardozo reported finding considerable numbers of Sternberg-Reed cells in sternal marrow smears obtained from a patient with Hodgkin's disease, proved first by node biopsy and later by necropsy. There were no illustrations.

De Paula e Silva reported Sternberg-Reed cells in 3 cases of Hodgkin's disease. Battistoni and Perazzini, reporting on 7 cases of Hodgkin's disease, always found Sternberg-Reed cells in the lymph nodes, found them less frequently in the spleen, and found only an "exceptional one" in the marrow.

Others have noted Hodgkin's specific cells in splenic and lymph node puncture and smear preparations but have not described them in the bone marrow.

It is evident that the finding of Sternberg-Reed cells in smears of the bone marrow is uncommon. This is perhaps not surprising when one considers the relatively small total amount of marrow directly affected by Hodgkin's disease in the usual case and the infrequency of Sternberg-Reed cells in many lesions.

Certain clinical similarities are apparent in the authors' cases. Both presented a relatively rapidly progressive course for Hodgkin's disease. Both had diffuse involvement of marrow without significant peripheral adenopathy and with only moderate splenomegaly. Both exhibited marked systemic effects, both ran high fever, and both manifested some affection

of the central nervous system. The response to HN_2 was immediate and brilliant though no more enduring than in the average case of Hodgkin's disease while the results of roentgen therapy were very disappointing. It is likely that these 2 patients belong to that group which Dameshek and associates have observed to be particularly benefited by the introduction of the nitrogen mustards.

In one case marked jaundice developed 5 months prior to the patient's death. It was unaffected by 200 mg. per day of cortisone for a week but was almost instantly improved by small amounts of mustard. This would appear to be an exception to the dictum that jaundice is the only absolute contraindication to the use of nitrogen mustard.

Two cases do not permit generalization but one might wonder whether the finding of Sternberg-Reed cells in bone marrow smears will continue among those patients with a poor prognosis whose disease, though extensive in the bone marrow, is scarcely apparent in peripheral lymph nodes.

Stimulated by the findings of these cells, additional material was reviewed for Sternberg-Reed cells on smear preparations. Of 201 cases of biopsy-proved Hodgkin's disease seen at the Mayo Clinic during the period chosen, sternal aspiration had been performed in 30 cases. The sternal marrow preparations from these 30 cases were studied thoroughly under both low and high magnifications and no Sternberg-Reed cells were found.

Two cases of Hodgkin's disease in which Sternberg-Reed cells were observed in marrow smears are recorded with accompanying photomicrographs. No such cells were seen in the course of routine examination of more than 6,500 other bone marrow smears or in a special review of 30 cases of proved Hodgkin's disease. (Blood, Jan. 1954, E. D. Bayrd, M. D., G. S. Paulson, M. D., and M. M. Hargraves, M. D.; Division of Medicine, Mayo Clinic, Rochester, Minn.)

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Treatment of Tuberculous Pericarditis

During the past 4 years the authors have treated 27 cases of clinically primary tuberculous pericarditis. By clinically primary the authors mean that the signs and symptoms were due to pericarditis and that no other active lesions could be demonstrated clinically at the onset of illness.

All but 2 patients were males; the ages ranged from 18 to 60; all but 5 were less than 30 years of age. The age and sex incidence merely reflected the age and sex incidence of the patient population. Sixteen or 59% were Negroes which is significant in view of the fact that Negroes constitute only about 10% of the Armed Forces.

The etiology was proved in 13 by culture or by demonstration of the organism in tissues removed at operation or autopsy. A presumptive diagnosis was made in 4 patients by demonstration of a greatly thickened, shaggy

pericardium by injection of air into the pericardial sac after the aspiration of fluid. The other 10 patients were diagnosed on clinical grounds, that is, by the presence of a typical, prolonged, severe, febrile illness in a young male, especially a Negro, with a positive Mantoux test, who responded promptly to streptomycin and para-aminosalicylic acid (PAS) or isoniazid (INH), but failed to respond to other therapy and in whom all other causes of pericarditis were excluded.

Treatment consisted of bed rest, aspiration for diagnosis and/or relief of tamponade, and chemotherapy. Every patient should receive a minimum of 120 days of drug therapy; probably 8 to 12 months is the optimum period. The actual duration of therapy depends upon the response of the patient, but must be continued for at least 90 days, preferably 6 months, after all signs of activity have ceased. The authors' criteria for inactivity are: (1) that the patient is afebrile; (2) that he has a normal sedimentation rate; (3) that there is no evidence of congestion; (4) that he has a normal-sized heart with normal pulsations; and (5) that he has a stable, but not necessarily normal, electrocardiogram. After the completion of chemotherapy the patient is slowly, but progressively, ambulated. All of the authors' patients were hospitalized for at least 1 year.

The authors' experience leads them to believe that every case of pericarditis should be studied exhaustively in an attempt to establish the etiology. Diagnostic studies should include pericardial aspiration with culture and/or guinea pig inoculation of the fluid obtained, contrast radiography, and, as a last resort, pericardial biopsy if necessary. The authors further believe that, when the diagnosis of tuberculous pericarditis is reasonably certain on clinical grounds, treatment should be instituted as soon as the initial studies have been accomplished and not withheld pending the results of cultural studies or animal inoculations. Six weeks of chemotherapy with intermittent streptomycin and para-aminosalicylic acid or isoniazid is a benign form of treatment. In the event that the diagnosis ultimately proves to be erroneous, no harm has been done and if the diagnosis is later confirmed, valuable time has been gained.

If the patient fails to respond to treatment in spite of adequate medical management, in that signs of congestion persist or progress, he should be subjected to prompt surgical resection even though active disease is present. It has been conclusively shown that surgical resection can be carried out even in the presence of active disease without danger of dissemination. Chemotherapy should be continued throughout the operative period and for at least 90 days, preferably for 6 months, after attaining an inactive stage. (Circulation, Jan. 1954, Col. E. M. Goyette, MC, USA, Maj. E. L. Overholt, MC, USA, and Capt. E. Rapaport, MC, AUS; Medical Services, Fitzsimons Army Hospital, Denver, Colo., and U. S. Army Hospital, Camp Carson, Colo.)

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Intra-arterial Priscoline

One of the major objections to the use of chemical sympathetic blockade to produce vasodilatation in the management of peripheral arterial disease has been the inability to confine the effects of the medication to the local vascular bed where vasodilatation is desired. Despite the fact that maximal skin flow can be achieved following the use of intravenous blocking agents, these drugs often produce annoying side effects because of their "generalized" effects, especially in the elderly patient. This, and the repeated failure to obtain a maximal rise in skin temperature following the use of Priscoline by the usual routes of administration, seemed to indicate that there might be a use for the drug when given intra-arterially. This approach has been used for other drugs to a limited extent for many years and intra-arterial Priscoline has been employed by several observers during the past 6 years. While the authors know from personal communications that many clinicians have followed this therapeutic technic, the method is not widely known. The exact role of intra-arterial Priscoline in the therapy of vascular disease has not as yet been clearly defined, especially since the introduction of other effective blocking agents.

Priscoline (2-benzyl-4, 5-imidazoline hydrochloride) exerts its adrenergic blocking effect in the periphery. In addition to blocking responses produced by stimulation of the sympathetic nerves or injection of epinephrine, Priscoline appears to have some direct dilating effect on the vessel wall. The drug is neither necrotizing to tissue nor is it irritating to the vascular endothelium.

The peripheral site of action, absence of irritation to the vessel wall, probable local dilating effect, and practical freedom from serious side effects, with proper precautions, makes Priscoline particularly suitable for intra-arterial administration.

Priscoline has now been in use for the treatment of peripheral vascular disease for many years. Numerous reports have confirmed the observations that the drug is an effective vasodilating agent. Its use, as well as the use of other presently available vasodilating agents is, however, definitely limited. Priscoline is effective orally, intravenously, or intra-arterially, but even when given by the latter route does not increase blood flow or prevent vasoconstriction following exposure to cold to as great a degree as some of the newer autonomic blocking agents (Dibenzyline and Hexamethonium).

There is some evidence to suggest that tolerance to drug effect develops after a prolonged period of therapy regardless of the drug used. For this reason, the long-term management of peripheral vascular disease with presently available drugs is not always satisfactory. The results are encouraging, however, in some cases where an increase in vasoconstrictor tone is present; namely, acrocyanosis, Raynaud's disease, and thromboangiitis obliterans. In causalgic states or in patients with ischemic pain excellent results have also been achieved.

Studies with Priscoline given by the intra-arterial route have indicated that this method of administration often produces better results than when the drug is used orally or intravenously. Side effects and reactions are minimal even in the older age groups.

Results indicate that intra-arterial Priscoline is often effective in the treatment of ulcerations or delayed wound healing secondary to diseases with increased vasoconstrictor tone and Raynaud's disease. Relief in various "causalgic" and pain states is also obtained. Treatment of these entities with Hexamethonium and/or Dibenzyline is, however, quite satisfactory and, in many instances, the results are better with the latter drugs. The use of these agents by conventional methods will relieve the physician of the necessity of using intra-arterial therapy with Priscoline. In the occasional case where a marked reaction to Hexamethonium or Dibenzyline occurs, or in instances where these drugs are not available, or the physician is not acquainted with their action, intra-arterial Priscoline should be used.

Priscoline has proved to be most effective in providing relief of ischemic rest pain in patients with organic arterial disease. There is evidence of an increased "local" effect and the occasionally serious side effects noted after the use of other "general" blocking agents are rarely noted after intra-arterial Priscoline. This consideration is especially important when one considers that most patients with organic vascular disease are treated in a semi-Fowler's (foot down) position. If drugs such as Hexamethonium, which produce marked postural hypotension, are used in these patients, there is a real danger of syncope and cerebral anoxia. If hypotension occurs and the patient must be placed in the head-down position to prevent serious cerebral difficulties, the ischemic extremity is rendered more ischemic by being elevated. For this reason intra-arterial Priscoline, which does not produce marked blood pressure changes, is to be preferred in the treatment of these patients. Rest pain is often dramatically relieved and gangrenous areas healed rapidly. Exercise tolerance is, however, rarely increased. (Circulation, Jan. 1954, A. G. Prandoni, M. D. and Capt. M. Moser, USAF (MC), Peripheral Vascular Clinics, Walter Reed Army Hospital and George Washington University Hospital, Washington, D. C.)

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Vaccination Against Influenza

Influenza can be singled out partly by its epidemiologic characteristics and finally only by either the demonstration of a rise in specific serum antibody or the recovery and identification of the virus from the respiratory tract.

It is now known that influenza as a specific infection occurs nearly every year in some part of the world, but during recent years, for reasons not understood, has become of gradually decreasing importance as a cause of death. Nevertheless, as a cause of morbidity with the accompanying disruption of normal community activities during the period of an epidemic it ranks of major importance. Furthermore, although the mortality now caused by the disease is not large in comparison with the 1918 experience, it is considerable, particularly in the older age groups. Last January and February, during the period of highest incidence, the death rate from influenza and pneumonia was 70.5 per 100,000 population, compared to 42.1 per 100,000 for the same months of the previous year (1952) or an increase of 67%. Furthermore, there is always the threat of the recurrence of a pandemic similar to that of 1918 and 1919.

In the period prior to the development of technics for the specific identification of infection with this virus the disease was perhaps best characterized by its epidemiologic features. These included a high attack rate occurring over a space of a few weeks in a given locality, the almost simultaneous appearance of the disease in various parts of the country and even the world, the age specific attack rate highest in the school age population groups but the age specific death rate highest in the elderly, and the occurrence during the winter months generally, although sometimes in the spring and fall. The clinical features which generally have been observed include fever of approximately 5 days' duration, malaise, muscular aching, slight cough, and headache, including retro-orbital pain. However, except in the seasons of epidemic incidence these are not generally sufficiently distinguishing to permit an accurate diagnosis. In addition, there is no evidence that any of the antibiotics now available have any therapeutic value in the course of the primary disease caused by the virus of influenza, but they may be of real value in bacterial complications such as pneumonia.

Because it is impossible to predict just what strain of virus might cause epidemics in the future, most vaccines and all of those commercially available contain a number of strains. To the older strains such as PR8, recently isolated strains such as the FW/1/50 or the FLW/1/52 have been added to furnish the newly appearing antigenic components for type A. Because type B influenza has occurred at approximately 6-year intervals and the antigen seems to have a greater capacity to produce immunity responses over a broader antigenic range, only 1 strain, Lee, is usually employed. This is in an attempt to keep in the vaccines, strains which are likely to have the antigenic components which may appear in the next year

or two, because so far the alteration appears to be a gradual one. These vaccines are prepared with virus grown in the allantoic sac of the developing chick embryo, concentrated to contain a uniform dose of antigen and killed by viricidal reagents or irradiation. Although they are relatively free of embryonic egg material, it is good practice not to administer them to individuals known to be sensitive to eggs. In general they are injected subcutaneously in only 1 dose of 1 ml. or 0.5 ml., but sometimes they have been injected intracutaneously in 0.1 ml. amounts. In a small proportion of individuals systemic reactions, consisting of headache, malaise, or low grade fever, may develop for a few hours, and the site of injection may be sore. These reactions are apparently dependent on the amount of viral antigen injected which must be balanced between the quantity necessary to give adequate protection and that which gives undesirable reactions.

Dr. Jonas Salk, of the University of Pittsburgh, in collaboration with the Commission on Influenza, has recently developed a vaccine containing a light mineral oil as an adjuvant. A number of studies in the military and civilian populations give promise that this method of preparation of the vaccine will produce more effective immunity. The studies have shown that the antibody responses appear to be higher and longer lasting, that a smaller quantity of antigen is required to give this response, and possibly that it may broaden the spectrum of antibodies developed against the strains contained in the vaccine. These vaccines are still under carefully controlled study and are not yet available for general use. However, they are of such promise that they should be carefully studied in man. Also, it remains to be demonstrated that adjuvant vaccines are actually effective in reducing the incidence of disease and that they are superior to the widely used aqueous vaccines.

It should be emphasized that vaccination against influenza cannot be expected to protect against the noninfluenzal diseases such as ordinary bronchitis or the common cold, the causes of which are probably diverse and certainly obscure. It is this group of noninfluenzal illnesses, particularly in children, which accounts for the vast majority of respiratory illnesses ordinarily encountered. Influenza vaccination does not give complete protection to all individuals even though immunization is done with current strains, possibly because of differences in immunity responses among individuals. In short, one should not expect too much of this method of prophylaxis at the present stage of development. Nevertheless, every indication is that, with continued research on the questions of pathogenesis and immunity, improvements in the composition of the vaccine, and evaluation of its effectiveness, eventually a dependable vaccine will be available to help meet the problems arising in the control of this disease. (M. Ann. District of Columbia, Dec. 1953, D. J. Davis, M. D., Laboratory of Infectious Diseases, National Microbiological Institute, National Institutes of Health, Bethesda, Md.)

Experimental Production of Carcinoma With Cigarette Tar

The increasing frequency of primary cancer of the lung in many parts of the world has aroused great interest in this condition and has stimulated a search for an explanation. In 1950, Wynder and Graham on the basis of a clinical and statistical investigation, presented evidence of a real association between lung cancer and smoking, especially of cigarettes. These data have been well substantiated by a large-scale British study by Doll and Hill. Both studies showed that the risk of developing cancer of the lung increases in direct proportion to the amount of smoking. Ten other recent studies reached similar conclusions. In 1952, The Council of International Organizations of Medical Sciences convened a symposium on the endemiology of lung cancer and agreed that the present evidence points to a relationship between lung cancer and cigarette smoking.

Tobacco is also thought to play some role in the production of cancer of the larynx, oral cavity, and esophagus. Although the studies of those relationships are not so complete as the studies on lung cancer, the collected data are suggestive.

The increasing incidence of bronchiogenic carcinoma and the available evidence relating smoking to it and possibly to cancer of other sites led the authors to undertake the experimental work reported in this article. This investigation was directed toward determining in laboratory animals whether there are carcinogenic factors in cigarette smoke.

A cigarette tar condensate was obtained with a smoking machine which simulated human smoking habits. The resulting tar was dissolved in acetone and applied to the backs of CAF_1 mice in a dosage of 40 mg. of tar/acetone solution 3 times a week. Control mice were painted with acetone.

Of 81 tarred mice, 59% developed papillomas. The first lesion was noted in the thirty-third week and the mean time of appearance was 56 weeks.

Of 81 tarred mice, 44% developed histologically proved carcinomas. The first carcinoma was observed in the forty-second week, and the average time of appearance was 71 weeks. Of 62 mice alive at 12 months, 58% developed cancer. Seventy-one weeks constitutes approximately one-half the life span of CAF_1 mice. This corresponds roughly with the fact already noted that in the human about 30 to 35 years of smoking, or approximately one-half the life span, are required for the production of bronchiogenic carcinoma.

One carcinoma was transplanted for 4 generations and another one is currently growing in the thirteenth generation.

Control mice painted with acetone alone showed no skin lesions. At the end of 20 months of painting, 53% were still living, compared to 9.8% in the group painted with tobacco tars.

A group of mice painted with croton oil in addition to the tar, starting in the seventh month, cannot be properly evaluated because of a greater number of deaths occurring during the twelfth and fourteenth months, although within the period of observation no acceleration of cancer formation was noted.

A group of mice started with acetone and receiving croton oil beginning in the seventh month showed roughening and thickening of the epidermis, but no tumor formation was noted.

All CAF_1 mice painted with 0.3% solution of methylcholanthrene in acetone developed cancer within 4-1/4 months. The first papilloma appeared during the sixth week, with average appearance during the seventh week. The first carcinoma was observed during the twelfth week, with a mean time of appearance of 16 weeks.

The results obtained with CAF_1 mice establish condensed cigarette tar as a carcinogen for mouse epidermis. These studies provide a tool to determine and isolate the possible carcinogenic agent(s) within tobacco tar. At present it is not known which fraction or fractions in tobacco tars are carcinogenic. Combined chemical and biologic studies are now in progress to search for such agents. Such studies, in view of the corollary clinical data relating smoking to various types of cancer, appear urgent. They may result not only in furthering knowledge of carcinogenesis, but also in promoting some practical aspects of cancer prevention. (Cancer Research, Dec. 1953, E. L. Wynder, E. A. Graham, and A. B. Croninger; Department of Surgery, Washington University School of Medicine, St. Louis, Mo.)

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Pulmonary Embolism and Infarction

Pulmonary embolism and infarction is a relatively common disorder of serious significance which is commonly mistaken for many other pulmonary conditions. It should be recognized promptly to initiate treatment and to try to prevent recurrences.

The sex distribution is about evenly divided between the two sexes. Pulmonary embolism and infarction occur much more commonly in older patients, but is a fairly frequent complication in middle-aged or young adults with heart failure. Eighty-five percent of the cases occur in persons over 40, and at least half are over 50. It is rare before the age of 20.

The outstanding cause of pulmonary embolism and infarction is a preceding thrombosis of the veins of one or both lower extremities.

Certain patients have a predisposition for thromboembolic episodes. These include persons with a history of previous thromboembolic episodes; those with extensive varicosities of the lower extremities; and patients with congestive heart failure, malignancies, and those undergoing extensive pel-

vic or abdominal surgery. Pulmonary embolism is twice as common in the obese. Advanced age, particularly over 50, is also a frequent predisposing factor. Trauma to the lower extremities, with and without fracture, and prolonged immobilization also predispose to this complication. Certain hematologic disorders, such as polycythemia vera, also predispose to thromboembolism.

In the majority of cases there does not appear to be any one precipitating factor, the thrombus breaks loose without any particular provocation and lodges in the pulmonary arteries. However, deep breathing, violent coughing, and straining at stool frequently seem to be the immediate precipitating cause.

The most outstanding and most common symptom produced by embolism is dyspnea which comes on suddenly without warning, is not attributable to effort, excitement, or sudden heart failure, and is out of all proportion to other findings. On rare occasions an asthmatic type of dyspnea is produced. The respiratory distress may be quite brief and may be the only symptom. The next most common symptom is pain which is usually described as a substernal oppression, and in older patients, particularly, may closely simulate angina pectoris. A state of shock is not rare, particularly in the more severe cases or in patients who were already seriously ill. A feeling of faintness, restlessness, and sweating are common complaints. With the development of infarction the patient develops a pleuritic type of pain which usually appears on the second day and persists for several days. Cough is also a common symptom. Hemoptysis is infrequent, being seen in only a third of the cases, but if it occurs, it is important evidence in favor of the diagnosis. It is often quite copious and does not resemble the frothy pink sputum of pulmonary edema.

Pulmonary embolism may kill very quickly within a matter of a few minutes but more often recovery ensues. Only a few die within a few minutes, a few more live for about 1 hour, but two-thirds live several hours to several days. It has been stated that 25% die of their first attack but this figure is probably too high as many mild cases are never recognized. Of the cases that survive, 30 to 40% suffer recurrences which is one of the outstanding characteristics of the disorder. One large series showed that 80% of the recurrences occurred within 10 days of the initial attack. Like the original attack, the severity varies widely. Pulmonary embolism and infarction may occur at anytime within 3 months of operation or injury, but the most common time is during the second week. About one-half of all cases occur during this period, one-fourth during the first week, and the remaining one-fourth after the fourteenth day. Recovered cases may show no sequelae whatsoever or they may show linear scars on roentgen ray or autopsy. Some cases of massive pulmonary embolism may recover to slowly develop a chronic cor pulmonale due to the obstruction in one of the main pulmonary vessels which results in marked pulmonary hyper-

tension. Repeated episodes of embolization in the tertiary radicals of the pulmonary arterial tree may also result in pulmonary hypertension and chronic cor pulmonale. (Dis. Chest, Jan. 1954, Col. E. M. Goyette, MC, USA, Fitzsimons Army Hospital, Denver, Colo.)

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Hemifacial Spasm

Hemifacial spasm is a condition manifesting itself by clonic and occasionally tonic contractions of the musculature innervated by the facial nerve usually beginning in the orbicularis oculi and spreading to the other muscles supplied by the facial nerve. The contraction occurs at intermittent, irregular intervals; the patient cannot control it nor produce it voluntarily, although at times a trigger action such as blinking the eyes or blowing out the cheeks will cause the spasm. The type of contraction varies from sudden severe involvement of the entire group of muscles which may last several seconds or minutes, to minute quivering or twitching of any one muscle or associated group of muscles. The spasm may occur during sleep. It is a disease of adult life and does not occur in children; it is worse under stress or strain; and it may occur in conjunction with tic douloureux. Occasionally it may be bilateral, although when it involves both sides, the spasms do not occur simultaneously and are not of the same magnitude.

Hemifacial spasm may be classified into two types. First, the cryptogenic which manifests itself by the irregular, involuntary, contractions of the muscles supplied by the facial nerve usually starting in the lower half of the orbicularis oculi and the orbicularis oris. This has also been referred to as idiopathic, essential, or primitive.

There is another type of spasm which occasionally follows some direct organic cause such as aneurysm of the basilar artery or tumor of the petrous ridge. This is referred to as secondary hemifacial spasm or postparalytic, as it may develop following a facial nerve paralysis. These are less severe in most instances than the cryptogenic and are easily differentiated by the history.

The cause of both the cryptogenic and the postparalytic spasm is unknown. There have been numerous cases reported in which intracranial pathologic changes have caused irritation to facial nerve or nucleus resulting in a spasm. These have been described as: aneurysm of the basilar artery; tumor of the petrous portion of the temporal bone; osteosarcoma; meningioma; neurofibroma; meningoencephalitis; encephalitis; carious teeth; conjunctivitis; and injuries of the seventh cranial nerve.

The treatment of hemifacial spasm is difficult. One must not underestimate the disability caused by the irregular spasm which is a constant source of psychic distress to the patient.

Nonsurgical treatment may alleviate the symptoms for a short time but clinical experience and reports of other observers indicate that this is of little value. On the basis of vascular spasm as a possible cause, the following agents have been suggested for early treatment: (a) sedation; (b) vasodilators such as nicotinic acid or Ronicacol; and (c) intravenous procaine.

Because nonsurgical treatment has contributed little to the relief of the patient, surgery is the treatment of choice. Two procedures are suggested: (1) Nerve section of the branch or branches at the periphery of the facial nerve that appear to be more productive of the spasm. (2) Neurolysis in which the sheath of the facial nerve is incised. Great care must be taken to explain to the patient the facial paralysis, tinnitus, or decreased hearing which may occur as sequelae of this treatment. Even though facial paralysis is disfiguring, many patients prefer it to the severe, paroxysmal contracture associated with the facial spasm. (Ann. Otol., Rhin. & Laryng., Dec. 1953, M.C. O'Donnell, M.D.; 1530 Arizona Ave., Santa Monica, Calif.)

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Papain Debridement

The use of enzymes in the treatment of suppurations, necrotic lesions, and burns is not new and has been tried in the past, but it was not until streptokinase and streptodornase were isolated and studied that a thorough consideration was given to their full value as fibrinolytic agents. Many reports have appeared in the literature on the excellent results obtained with these 2 enzymes.

To the authors, in Central America, there is one objection to the use of streptokinase and streptodornase or any other fibrinolytic enzyme already on the market--the cost to the hospital or to the patient and the fact that the majority of patients who require this treatment cannot afford it. It is for this reason that the authors tried to find a less expensive but equally effective enzyme with a proteolytic action. They were successful and obtained excellent results with the enzyme selected, papain, the dried milky juice of the melon tree Carica papaya. It is a yellowish, grayish, or light brown powder with a characteristic odor. It is soluble in water and glycerine and insoluble in alcohol, ether, and chloroform. It is said to be especially activated by hydrogen sulphide and sulphydryl compounds in general, as well as by hydrogen cyanide. It is also activated by sulphur containing such amino acids as cysteine and methionine. Glutathione also activates it.

Two methods were followed in the treatment: (1) the application of wet dressings with freshly prepared solutions of the enzyme, ranging from 2 to 5%, and (2) direct application of the powder with a common vaginal insufflator.

Papain was used in the treatment of 20 patients with various lesions, including second and third degree burns, chronic leg ulcers, gangrene, carbuncle, chronic suppuration, and dry crusts and proved to be an effective and potent agent of debridement.

There are many brands of papain which vary greatly in potency. The fibrinolytic potency of the enzyme was compared in 3 cases with that of a standard preparation of streptokinase-streptodornase and found to be similar.

Papain did not cause any deleterious action on healthy tissues, and systemic or generalized reactions were not noticed during its application. The powder and solutions used were not bacteriologically sterile, nevertheless, no reaction attributable to their application was observed.

Finally, the cost of papain is so low that any hospital or patient can afford to use it extensively. (J. Internat. Coll. Surgeons, Dec. 1953, A. Guzman, M.D. and M.G. Stein de Guzman, M.D.; Departments of Surgery, General and Plastic Surgery Services, San Juan de Dios and Max Peralta Hospitals of the Cities of San Jose and Cartago, Costa Rica, Central America)

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Treatment of Keloids and Keloidal Scars

Treatment of heavy scars is frequently unsatisfactory because they have been diagnosed as keloids. The important consideration in determining the treatment is a differential diagnosis between the keloid and the keloidal scar.

A keloid is a tumor of the fibrous tissue of the skin and the patient must have a tendency to keloid formation to produce the growth. This tendency is probably due to a metabolic change in the healing factors.

Because of the author's observations the various theories proposed to explain these growths are questioned. The tendency to the formation of keloid is not constant during the life of a patient. It may be present at any time, disappearing permanently or reappearing again later in life. Keloids have been present in children as young as 3 years and others have been seen in elderly patients. If 100 patients with keloids have them removed completely, 40 to 60% will recur. The author believes that those patients in whom the keloids do not recur have lost the tendency to keloid formation. The age of the patient does not appear to be a factor. The incidence in the younger age groups is probably due to the greater incidence of trauma during that time.

The degree of susceptibility also varies with the individual. The tendency is so marked in some individuals that any abrasion causing bleeding (even a pin scratch) will result in a keloid. In most cases a chronic in-

flammatory reaction is necessary to produce a keloid. Ears pierced for earrings are a very common site. A prolonged low grade infection is present which may be the motivating factor in the formation of the keloid. The slow healing of ulcers and infected vaccinations may result in keloid formation if the tendency is present. However, in some cases, the tendency is so marked that a keloid will result even in a clean, primarily healed surgical incision. The texture, color, and oiliness of the skin appear to be factors in the tendency to keloid formation. Deeply pigmented, swarthy, oily skin is more prone to keloid formation than is light, thin, and dry skin. The white peoples stemming from the Mediterranean areas who have dark, oily, heavy skin are more prone to this condition than are fair-skinned peoples stemming from Northern European areas.

It is interesting to note that, except in burns, keloids will rarely appear in the hands or in the feet even though the tendency is very pronounced.

A keloidal scar is an overgrowth of fibrous tissue in the corium of the skin where the epithelial elements have been partly or completely destroyed. Burns are the most common cause. While the destroyed or partially traumatized epithelium is being separated by whatever means employed, there is a healing process in action which forms fibrous tissue. The length of time which elapses before the area is healed, whether by extension of the epithelium present or by grafting will determine the density of the resulting scar. This is particularly true in grafted cases if the fibrous tissue is not cleaned to its base.

A keloidal scar can also be caused by a dense layer of fibrous tissue where the skin has been completely lost. This fibrous tissue will contract as time goes on causing a thick, raised, red scar.

Scars which have contracted because of skin shortening become keloidal in appearance and are most frequently diagnosed as keloids.

The differential diagnosis is made by the use of massage over a period of months. A keloid, which is a tumor growth, will not be influenced by massage. A keloidal scar can be softened to a great extent by daily massage. If softening occurs, the condition is a hypertrophic scar and not a keloid. The symptoms are very similar. They are the result of fibrous contracture on nerve ends and lack of natural lubrication. The pinching of the nerve ends causes formication, tenderness, and pain. Lack of lubrication, due to loss of oil glands causes dryness and itching. Clothes and blankets tend to increase the itching.

The keloid is first given an x-ray treatment usually termed an erythema dose. The theory is that it will slow down the activity of fibroblasts for a time. Arbitrarily a partial excision is done 2 or 3 weeks after this treatment. The theory is that the reparative processes are again active enough to assure primary healing. These suppositions may be questioned but they seem to be effective. Under local anesthesia procaine is injected into the keloid and under the surrounding skin. Care is taken not to introduce the hypodermic needle into normal skin to prevent the formation of additional keloids.

An incision is made into the keloid leaving sufficient margins for closure without the necessity of suturing normal skin. The narrow margins are thinned, leaving enough thickness to insure circulation. The keloid is excised down to normal fat and the margins undercut to relieve tension on closure. Subcutaneous sutures are used to approximate the margins of the remaining keloid which are sutured to each other. This results in a narrow flat keloid having the appearance of a slightly spread scar. If the patient has more than one keloid, postoperative x-ray therapy is given starting 3 weeks after operation. This is carried on for a period of 1 year, the treatments being determined by the roentgenologist. This method has resulted in 90% success without recurrences. The residual keloid remains flat and no attempt should ever be made to remove it because a new growth may result.

The keloidal or hypertrophic scar can be treated a number of ways. The scar can be excised completely. A broad scar can be removed by gradual partial excision if the area is amenable to shifting of the surrounding skin. The broad, tight scars where shifting is not possible are corrected by relaxing incisions and grafting. The relaxation of the tight scar will permit it to soften and become less dense. This method is especially applicable to the lower trunk and thighs. Z-plasty can be satisfactorily utilized on small contracted areas showing raised check-rein scars--a condition frequently seen on the face. Repeated relaxations may be necessary but the pliable, soft scar resulting is more to be desired than a graft.

The contracted scar may be so situated that relaxation can be accomplished only by means of a replacement with skin and fat. Under these circumstances a flap is indicated. The donor area should be selected with regard to the texture and color of the site to be grafted.

The keloidal scar can be avoided to a great extent by removal of excess granulation tissue at the time of grafting. No longer is it necessary to prepare the granulating base for grafting by compresses, et cetera. When the surface has been denuded of necrotic tissue the area should be scraped with a blunt instrument such as a knife handle, removing the granulations to a firm base. The bleeding which is profuse when the scraping is started will practically cease when the firm base is reached. Grafts take readily on this surface and the healed result will have much less tendency to thicken and contract. (Plast. & Reconstruct. Surg., Dec. 1953, E. A. Kitlowski, M. D., University of Maryland, School of Medicine, Baltimore, Md.)

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Change of Address

Please forward requests for change of address for the News Letter to: Commanding Officer, U. S. Naval Medical School, National Naval Medical Center, Bethesda 14, Maryland, giving full name, rank, corps, and old and new addresses.

Medals and Awards From the Beginning of the Korean Conflict to 31 December 1953

Personnel of the Medical Department of the Navy have received the following medals and awards from the beginning of the Korean conflict to 31 December 1953. These medals and awards represent those officially recorded in the Bureau of Naval Personnel (Medals and Awards Section) as of 31 December 1953.

Medal of Honor	5 Hospital Corpsmen
Navy Cross	19 Hospital Corpsmen
	1 Dental Corpsman
Army Distinguished Service Cross	1 Hospital Corpsman
Silver Star	3 Medical Corps Officers
	1 Dental Corps Officer
	109 Hospital Corpsmen
	1 Dental Corpsman
Army Silver Star	4 Medical Corps Officers
	7 Hospital Corpsmen
Legion of Merit	29 Medical Corps Officers
	5 Dental Corps Officers
Distinguished Flying Cross	7 Hospital Corpsmen
Navy and Marine Corps Medal	2 Medical Corps Officers
	5 Hospital Corpsmen
Bronze Star	89 Medical Corps Officers
	9 Dental Corps Officers
	5 MSC and HC Officers
	3 Nurse Corps Officers
	277 Hospital Corpsmen
	1 Dental Corpsman
Army Bronze Star	11 Medical Corps Officers
	1 Dental Corps Officer
	9 Hospital Corpsmen
Army Soldiers Medal	1 Medical Corps Officer
Air Medal	8 Medical Corps Officers
	5 Hospital Corpsmen
Letter of Commendation with Ribbon and Combat "V"	127 Medical Corps Officers
	22 Dental Corps Officers
	22 MSC and HC Officers
	296 Hospital Corpsmen
	14 Dental Corpsmen

Letter of Commendation with Ribbon	41 Medical Corps Officers
	10 Dental Corps Officers
	11 MSC and HC Officers
	6 Nurse Corps Officers
	25 Hospital Corpsmen
	2 Dental Corpsmen
Letter of Commendation	3 Medical Corps Officers
	7 Hospital Corpsmen
	2 Dental Corpsmen

A grand total of 1,206 medals and awards, of which 793 were won by Hospital and Dental Corpsmen, is listed. It is worthy of note and food for thought that all of the Medals of Honor and Navy Crosses awarded to Medical Department personnel were awarded to Hospital and Dental Corpsmen.

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Industrial Medicine in the Navy, January-March 1953

The Navy Department is a large employer of industrial workers. During the first quarter of 1953 an average of about 470,000 civilians were employed in the various industrial and research establishments under the administrative jurisdiction of the Department of the Navy. Like other large industrial employers, the Navy provides medical care for occupational injuries and illnesses as well as for certain nonoccupational ailments. Thus during each month of the first quarter of 1953 about 1 out of every 6 civilian employees was treated for an occupational or nonoccupational condition. In addition, special and periodic physical examinations and tests are provided for these induatrial workers.

This count is based on reports involving an average of 382,354 civilian workers because activities with less than 300 employees and certain selected extra-continental facilities are not required to submit NavMed 576a, Industrial Health Data Sheet. The large number of civilian industrial employees of the Navy Department constitutes a tremendous administrative as well as medical work load and health problem. The management of the industrial and research establishments employing the majority of these workers is a function of the several administrative subdivisions of the Navy in accord with the type of industry and product manufactured. For example, naval hospitals are managed by the Bureau of Medicine and Surgery, air stations and facilities by the Bureau of Aeronautics, and naval shipyards are under the control of the Bureau of Ships. By far, the largest number of civilian workers are under the management control of the Bureau of Ships (36%), with the Bureau of Aeronautics (18%), Ordnance (15%), and Supplies and

Accounts (13%) next in order of ranking. These 4 Bureaus together control 4 out of 5 of the total number of civilian industrial workers employed by the Navy Department. In addition, there are almost 27,000 civilian employees in activities under multi-bureau sponsorship.

Accident prevention and industrial health programs are designed to provide reasonable protection against occupationally induced conditions in the daily work routine. Every ailment, whether occupational or non-occupational in origin, which is treated in an industrial medical facility is carefully appraised and reported to industrial medical officers and safety engineers. From these data, techniques and controls are developed to minimize the time lost due to human and machine weaknesses. When an individual is not physically able to return to work following treatment for any condition, he is considered a lost-time case. In many instances, a man-day lost due to illness or injury means an idle machine in a vital industry. Therefore, it is especially important to decrease time lost on the job. To accomplish this end prevention programs and adequate medical facilities for treatment of all injuries and diseases, no matter how minor, are a necessity and an obligation.

The medical department, in fulfilling its responsibilities to employees in industrial establishments under the control of the Navy, collaborates with the Office of Industrial Relations and production divisions to assure proper selection and placement of personnel. For example, visual requirements are standardized and determined for specific jobs and, when feasible, eye protective or corrective devices are installed. As part of the program to supply able-bodied personnel to placement officers, 14,329 pre-employment physical examinations were reported during the first quarter of 1953. As part of the general health program, there were also recorded about 55,800 special and almost 24,500 periodic examinations. In addition, these civilian applicants and employees received a total of 88,253 chest x-rays and readings. (Statistics of Navy Medicine, Jan. 1954, Bureau of Medicine and Surgery, Department of the Navy, Washington 25, D.C.)

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Comparison of Effects of Soaps and Synthetic Detergents on Hands of Housewives

The effect of household washing products on the skin is a subject of importance and concern not only to the housewife but also to the physician and manufacturer.

In recent years there has been in this country a decided trend toward the synthetic detergent products for household use. The amount used has increased from less then 1 lb. per person, in 1942, to almost 10 lb. per person, in 1951. Almost two-thirds of the packaged household washing

products sold today are synthetic detergents. This great increase in the use of synthetic detergents since World War II has been due largely to the introduction of all-purpose synthetic detergents. The all-purpose synthetic products are analogous to the all-purpose soaps, in that they contain certain builders, mostly inorganic phosphates, in addition to the active synthetic detergent to make them clean more efficiently.

Because of the almost universal use of synthetic detergents and the wide variety of products used or proposed for use in them, it is important to have available valid, reliable, and realistic methods for comparing their effects on the skin.

This article presents a method for comparing the average response of the skin of typical users to soaps or synthetic detergents under conditions of frequent and regular use in the home and presents some typical data. The first of these tests was made almost 10 years ago. The procedure described was evolved in the course of more than a dozen tests made since then, in which more than 5,000 housewives participated.

Essentially, the test consisted of having large numbers of women use the products at home for a period of time and checking their reactions by a careful examination of the skin of their hands and arms before and after the test period. Between 200 and 300 women used each test product. Such a relatively large group provided a rather representative sample of the population as to skin type and condition and was of good size for statistical significance. The usual test period was 2 weeks, although the authors have made tests with a 2-month test period. Two or more products can be compared at a time. In the tests the authors made, usually 3 to 6 products were compared.

In addition to the product used for dishwashing, there were a number of other factors which could and did affect the condition of the skin as seen on the day of examination, these were: inherent differences in type of skin; difference in amount of exposure in dishwashing; exposure to detergents other than test products; exposure to materials other than detergents; and change in weather conditions.

A procedure for determining the relative condition of the skin of housewives' hands after using different detergents for regular household washing operations is described. It was based on gross and microscopic examination of the subjects' hands and lower arms before and after 2 weeks' use of the test products. Data are presented which are typical of those obtained in more than a dozen tests of this kind.

The relative ratings of the products as determined in this type of clinical test were in general agreement with those based on appraisals by the women who used them.

Among the products for which test data are given, fine-fabric soap was associated with the best general skin condition of the hands. An all-purpose synthetic detergent and one all-purpose soap were found to be similar in this respect and next best, and both were somewhat better than a second all-purpose soap. In no case was the difference between products large.

The incidence of dermatitis among the more than 5,000 housewives who participated in tests of this kind was about 1 in 1,000. All cases of dermatitis were recurrences of previously existing skin trouble and occurred with both soap and synthetic test products. The specific cause of the dermatitis in these cases was not determined. (Arch. Dermat. & Syph., Dec. 1953, 535 N. Dearborn St., Chicago 10, Ill., S. A. M. Johnson, M. D., R. L. Kile, M. D., K. J. Kooyman, Ph. D., H. S. Whitehouse, Ph. D., and J. S. Brod, Ph. D.)

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Pemphigus and Pemphigoid

The validity of histological criteria for the definition of pemphigus has become widely recognized since the important work of Civatte and of Dupont and Pierard. There are, however, many dermatologists who have difficulty in distinguishing pemphigus from those pemphigoid eruptions which sometimes closely resemble it clinically and bear little resemblance to classical Duhring's dermatitis herpetiformis. The authors believe that pemphigoid eruptions are a manifestation of a pathological process fundamentally different from that of pemphigus.

This article is based on a study of 54 bullous eruptions, of which 38 were pemphigoid and 16 pemphigus. The authors' object was to compare the clinical features, course, and response to treatment of these two groups, classified according to their pathologic changes. The authors accepted as pemphigus those cases in which the bullae were apparently formed within the epidermis by acantholysis. The remaining cases with bullae beneath an intact epidermis were classified as pemphigoid. No patients followed for less than a year were included.

Pemphigus. --Three patients with the Senear-Usher syndrome are excluded from certain portions of the study. In most patients the initial lesions were moist crusts but occasionally large bullae. Where the mouth was involved the lesions were described as ulcers or as stomatitis. In all patients the eruption eventually became widespread. The interval which elapsed between the appearance of the initial lesion and generalization of the eruption was never less than 2 weeks nor more than 6 months and in most patients was about 3 months. The buccal mucous membranes were eventually involved in 12 of the 13 patients (92%). In 2 patients there were conjunctival lesions and in 1, urethritis.

If the 3 cases of Senear-Usher type are excluded the remaining 13 cases were all fatal after an average duration of 8-1/2 months. The longest survival period was 26 months and only 3 patients lived more than a year.

Pemphigoid.--In the pemphigoid eruptions the lesions were also localized for a variable period after their onset. Whereas in pemphigus the initial lesions were often confined to a small area the localization of pemphigoid lesions was less marked, but characteristically the eruption of large tense bullae was for a time confined to one region of the body. The initial lesions were large bullae in all except 4 cases. Although the bullae were usually clear, in several patients they were hemorrhagic--a feature the authors did not observe in pemphigus. In 3 patients urticarial wheals, often gyrate, were present together with the bullae. In 1 patient the bullae were flaccid and crusting. The interval before generalization of the eruption was usually between 2 and 3 months, but in 1 patient was a year.

The buccal mucosa was ultimately involved in 5 patients (13.5%). The conjunctiva was involved at the same stage in 2 patients; both were men, aged 23 and 60, and the clinical picture was ultimately that of ocular pemphigus.

Twelve of 38 patients died after an average duration of 14.5 months. Five patients lived over a year and 1 for 4-1/2 years. The shortest survival was 6 months. The 26 surviving patients with pemphigoid eruptions were all followed for at least a year after the onset of the condition. The course of the eruption was exceedingly variable, in contrast with the much more uniform evolution of the cases of pemphigus. In 2 patients the bullae remained localized throughout the course of the eruption to the sites initially involved. In 1 patient the eruption was localized to the legs for 2 weeks, then spread to the thighs and arms, clearing after 3 weeks on sulfapyridine, but recurring only in the original sites 6 months later.

Such localized or partially localized eruptions are exceptional, and in 26 of the authors' patients the eruption became generalized and involved the greater part of the body.

Because all patients in this series received treatment of some kind the authors' figures may not give a true indication of the natural history of the condition.

The authors saw no definite evidence of the beneficial effect of any treatment on pemphigus. None of the remissions attributed to treatment was outside the scope of natural remissions. ACTH and cortisone were not available at the time these patients were under treatment.

Most patients with pemphigoid eruptions received more than one form of treatment and there was wide variation in response. Some patients were completely controlled by one drug and uninfluenced by others. Some were completely or partially controlled by any one of three or more drugs. A few were totally uninfluenced by any form of treatment. Arsenic proved the most generally useful drug and was given in the form of Fowlers' solution to 20 patients. Nine were completely or almost completely controlled and a further 7 or 8 were significantly improved. Of 17 patients receiving

sulfapyridine 4 were controlled, 7 were improved, 4 uninfluenced, and 2 aggravated. Stovarsol was given in 3 cases and Suramin in 2, with significant improvement. Six patients were apparently uninfluenced by any form of treatment. (Brit. J. Dermat., Dec. 1953, A. Rook and E. Waddington, Addenbrooke's Hospital, Cambridge, and St. Thomas's Hospital, London, England)

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Navy Hospital Corpsman Awarded Medal of Honor

William Richard Charette, Hospital Corpsman Third Class, U.S. Navy, was awarded the Medal of Honor for heroism in the Korean War.

He was decorated by President Eisenhower at a White House ceremony on January 12, 1954. His citation reads:

"For conspicuous gallantry and intrepidity at the risk of his life above and beyond the call of duty as a Medical Corpsman, serving with a Marine Rifle Company, in action against enemy aggressor forces in Korea during the early morning hours of 27 March 1953. Participating in a fierce encounter with a cleverly concealed and well-entrenched enemy force occupying positions on a vital and bitterly contested outpost far in advance of the main line of resistance, Charette repeatedly and unhesitatingly moved about through a murderous barrage of hostile small-arms and mortar fire to render assistance to his wounded comrades. When an enemy grenade landed within a few feet of a Marine he was attending, he immediately threw himself upon the stricken man and absorbed the entire concussion of the deadly missile with his own body. Although sustaining painful facial wounds, and undergoing shock from the intensity of the blast which ripped the helmet and medical aid kit from his person, Charette resourcefully improvised emergency bandages by tearing off part of his clothing, and gallantly continued to administer medical aid to the wounded in his own unit and to those in adjacent platoon areas as well. Observing a seriously wounded comrade whose armored vest had been torn from his body by the blast from an exploding shell, he selflessly removed his own battle vest and placed it upon the helpless man although fully aware of the added jeopardy to himself. Moving to the side of another casualty who was suffering excruciating pain from a serious leg wound, Charette stood upright in the trench line and exposed himself to a deadly hail of enemy fire in order to lend more effective aid to the victim and to alleviate his anguish while being removed to a position of safety. By his indomitable courage and inspiring efforts in behalf of his wounded comrades, Charette was directly responsible for saving many lives. His great personal valor reflects the highest credit upon himself and enhances the finest traditions of the United States Naval Service."

Charette was born on March 29, 1932 at Ludington, Michigan, the son of William G. and Margaret Furlong Charette. He is the nephew of Mr. Albert L. Furlong of Ludington, Mich. (TIO, BuMed)

Correspondence Course, "Aviation Medicine Practice"

The Medical Department correspondence course entitled, "Aviation Medicine Practice" (NavPers 10912) has been revised and is now available for distribution. This course is evaluated at 24 Naval Reserve promotion and retirement points at the rate of 3 points per assignment. The text material for this course has not been changed in the revision, therefore, officers who have completed the earlier course for credit will receive no additional credit for completion of this revision. (NavMedSch, NNMC, Bethesda, Md.)

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Training Billets for Inactive Reserve Dental Officers

Two training courses have been made available for Inactive Reserve Dental Officers in an active status (officers on the inactive status list are not eligible) during the month of March 1954. A course on Professional and Military Subjects for Volunteer Naval Reserve Dental Officers will be given 8-20 March 1954 at the U.S. Naval Dental School, NNMC, Bethesda, Md. The following quotas have been assigned to districts for this training:

Naval District	Quota
1	7
3	10
4	6
5	2
6	8
8	7
9	18
PRNC	4

A course on Medical Aspects of Special Weapons and Radioactive Isotopes which will be given 1-5 March 1954 at the U.S. Naval Station, Treasure Island, San Francisco, Calif., has been made available to Inactive Reserve Dental Officers on the West Coast. The following quotas have been assigned to districts for this training:

Naval District	Quota
11	27
12	25
13	8

Eligible Reserve Dental Officers may apply to the Commandant of their Naval District for assignment to these courses. (DentDiv, BuMed)

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Opportunities for Dental Technicians

The Dental Division, Bureau of Medicine and Surgery, encourages applications from chief dental technicians and dental technicians, first class, who desire duty as instructors in naval dental technician schools. Preference will be given to applicants now on sea duty who have served at least 1 year of their present tour. Consideration will be given to applicants on shore duty who have been ashore less than 1 year on their present tour. A waiting list will be established to fill vacant instructor billets as they occur. Successful applicants will be sent to a 4 weeks' course at a Navy instructors' school prior to assignment in a dental technician school. Applicants should submit applications via official channels to Chief, Bureau of Medicine and Surgery (Code 6133).

Chief dental technicians and dental technicians first class who especially desire duty in Greece or Formosa may submit requests to Chief, Bureau of Medicine and Surgery (Code 6133) via official channels. There are billets for dental technicians with the U. S. Military Assistance Advisory Group in Greece and with the Group in Formosa. Applicants must meet the requirements of BuPers Instruction 1306. 6. A waiting list of qualified applicants will be maintained to fill vacancies as they occur. (DentDiv, BuMed)

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Awards

On 16 December 1953, the Secretary of the Navy Award for Achievement in Industrial Safety and the Secretary of the Navy Award for Motor Vehicle Safety, both for the year 1952, were presented to the Commanding Officer of the U. S. Naval Hospital, Pensacola, Fla., by Vice Admiral J. D. Price, U. S. N.

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From the Note Book

1. Rear Admiral Clarence J. Brown (MC) USN, Deputy Surgeon General of the Navy, will attend the 50th Annual Congress on Medical Education and Licensure of the American Medical Association, Feb. 7-9, 1954 in Chicago, Ill. Admiral Brown will also attend a meeting of the Joint Committee on Medical Education in Time of National Emergency. (TIO, BuMed)

2. Rear Admiral Daniel W. Ryan (DC) USN, Assistant Chief for Dentistry and Chief of the Dental Division, will represent the Naval Dental Corps at the 89th Mid-Winter Meeting of the Chicago Dental Society held in Chicago, Ill., Feb. 7-10, 1954. (TIO, BuMed)

3. There were 1,859 naval dental officers on active duty at the beginning of this calendar year. Of this number, 1,122 were Naval Reserve and 737 were Regular Navy dental officers. (TIO, BuMed)

4. The Navy's Bureau of Medicine and Surgery scientific exhibit, "U.S. Navy Dental Corps Casualty Treatment Training Program," was shown at the Greater Philadelphia Annual Meeting of the Philadelphia Dental Society, Feb. 3-5, 1954. The exhibit will be shown Feb. 22-24, 1954 at the Minnesota State Dental Convention, St. Paul, Minn. (TIO, BuMed)

5. Dr. Hallowell Davis, Director of Research, Central Institute for the Deaf, received during December the George E. Shambaugh prize in otology from the Collegium Oto-Rhino-Laryngologicum Amicitiae Sacrum, an international society devoted to scientific study and development in the field of otolaryngology. Dr. Davis is the first American-born scientist to receive this award which is presented every 3 years to the individual scientist selected as having made an outstanding contribution to knowledge concerning hearing and deafness. Dr. Davis is the executive secretary of the Armed Forces National Research Council Committee on Hearing and Bio-Acoustics, and is engaged in laboratory research for the Office of Naval Research on the effects of high-intensity sounds on the ear particularly in terms of injury and loss of hearing and in physiological acoustics in the ear. (ONR)

6. White blood cells from peripheral blood and bone marrow have been sectioned for study in the electron microscope. Methods of fixation and handling are described. (Blood, Jan. 1954, J. Kautz, M.A., and Q. B. DeMarsh, M.D.; University of Washington, School of Medicine, Seattle, Wash.)

7. The author discusses some of the special problems he has encountered and overcome in surgical fenestration procedures including suppurative laryngitis, osteogenic closure of the new fenestra, et cetera. The modern fenestration procedure offers to patients with hearing difficulties due to otosclerosis with stapes ankylosis approximately 7 or 8 chances in 10 of a satisfactory restoration of hearing. (J. Internat. Coll. Surgeons, Dec. 1953, G.E. Shambaugh, Jr., M.D., Chicago, Ill.)

8. Individualized attention to abnormal findings whether indicative of errors of habit, functional disturbance, or organic disease will largely determine

the personal and public health value of group examinations. (Dis. Chest, Jan. 1954, C. A. McKinlay, M. D. ; Minneapolis, Minn.)

9. The prevention of rheumatic fever and rheumatic heart disease depends on the control of streptococcal illnesses and may be accomplished by early and adequate treatment of streptococcal infections in all individuals and the prevention of streptococcal infections in rheumatic subjects. (Post-Graduate Medicine, Jan. 1954, M. J. Ford, J. Watt, N. I. H. , P. H. S. , Washington, D. C. ; J. P. Hubbard, and B. Breese; American Heart Association, New York, N. Y.)

10. The use of interrupted alloy steel sutures for all layers in closure of cleft lip and palate deformities has, in the authors' experience, greatly improved the appearance of the scars, reduced the amount of tissue edema, induration, and infection seen with other suture materials. (Plast. & Reconstruct. Surg. , Dec. 1953, O. P. Large, M. D. ; Temple University Hospital, Philadelphia, Pa.)

11. Irradiation, triethylene melamine, and nitrogen mustards are usually the most effective therapeutic measures available for Hodgkin's disease, lymphosarcoma, follicular lymphoblastoma, and reticulum cell sarcoma. In most cases irradiation is the therapy of choice for all of them. (J. A. M. A. , Jan. 9, 1954, O. O. Meyer, M. D. , Madison, Wisc.)

12. A novel combination of jeep and fire-foam unit is now being successfully used for fighting fires in factory areas, in aeronautical establishments, on landing fields, and in places where conditions do not permit the generally used equipment. Tested under most severe operating conditions, this unit applies certain higher-expansion types of light, stable foams from the most advantageous point of attack direct to the source of the fire with the aid of a specially designed force pump. (NRL)

13. LT W. Wright (MC) USN has recently been certified by the American Board of Dermatology and Syphilology.

14. The Ministry of Public Health, Mexico, states that there is an outbreak of infectious hepatitis in Mexico City, and that the disease is spreading. In a hospital for children there have been 11 deaths, but elsewhere the case fatality rate is reported to be about 3%. The disease was first noted in July 1953, and at this time 3 hospital employees were affected. A marked increase in cases occurred in December. (P. H. S. , Dept. H. E. W.)

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BUMED INSTRUCTION 6020.2 6 Jan 1954

From: Chief, Bureau of Medicine and Surgery
To: Ships and Stations Having Medical/Dental Personnel Regularly Assigned

Subj: Department of Defense forms for certain laboratory analyses; availability and use of

Ref: (a) Preventive Medicine Laboratory Methods, U.S. Naval Medical School, Bethesda, Maryland (July 1953)

This instruction promulgates information regarding availability and use of Department of Defense forms for requesting certain laboratory analyses and reporting the results of such tests.

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BUMED INSTRUCTION 1500.4A 6 Jan 1954

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations Having Officers of the Medical Corps and Dental Corps Regularly Assigned

Subj: Professional examinations and memberships in civilian professional societies for medical and dental officers; reporting of

This instruction informs medical and dental officers of the requirement for furnishing the Bureau of Medicine and Surgery information relative to professional examinations and memberships in civilian professional societies. BuMed Inst. 1500.4 is cancelled.

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BUMED NOTICE 6150 7 Jan 1954

From: Chief, Bureau of Medicine and Surgery
To: All Stations Having Medical Personnel Regularly Assigned

Subj: NavMed H-1, Health Record Cover (Rev 5-52); return of surplus stock for issue

This notice furnishes information concerning action required prior to issuance of a new Form DD-722, Health Record Jacket (17 June 1953), which will supersede NavMed H-1, Health Record Cover (Rev 5-52), after all stocks of the latter have been exhausted.

BUMED INSTRUCTION 1770.5 11 Jan 1954

From: Chief, Bureau of Medicine and Surgery
To: Activities in Continental United States Having Annual Navy Contracts for Care of the Dead; All Commandants of Naval Districts and River Commands, Continental United States; and Commandant, Tenth Naval District

Subj: Form NavMed-609; Report of Disposition and Expenditures--Remains of Dead

This instruction requires detailed fiscal information relative to deaths handled under annual care of the dead contracts.

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PREVENTIVE MEDICINE SECTION

Instructions and Notices Pertinent to Preventive Medicine

Numerous directives relative to the preventive medicine program have been issued by the various Navy bureaus to those who may be required to take action and/or to those to whom the information may be essential.

The Navy Department publishes a guide, "The Navy Directives System Quarterly Check List," in order to keep each activity advised as to the directives applicable to that command. It is suggested that, if any of the following directives are not in your files, the quarterly check list, usually kept in the ship or station administrative office, be consulted. If the directive in question has not been addressed to your activity, it was not considered applicable, and therefore should not be requested from the issuing bureau.

You may desire to visit the nearest addressee of a missing directive in order to review the directive to broaden your knowledge of the preventive medicine program.

Communicable Disease Control

SecNavInst 1620.2	Establishment and Composition of Armed Forces Disciplinary Control Boards.
BuMedInst 6200.6	Monthly Report of Preventive Medicine Activities (RCS Med 6200-1).
BuMedInst 6210.1	Quarantine of dogs and cats brought into the Panama Canal Zone.
BuMedInst 6210.2	Quarantine regulations; rinderpest and foot-and-mouth disease.
BuMedInst 6220.1	Influenza detection.
BuMedInst 6222.1	Urethritis, reporting of.
SecNavInst 6222.1	Venereal disease control.
BuMedInst 6222.2A	Venereal disease prophylaxis measures.
BuMedInst 6222.3A	Oral penicillin prevention of gonorrhea.
BuMedInst 6222.4	Health precautions in Greenland.
BuMedInst 6222.5	Treponemal Immobilization Test for Syphilis.
BuMedNote 6224	Individual Report of Conversion of Tuberculin Test From Negative or Doubtful to Positive, NavMed-1336; revision of.
BuMedInst 6224.1	Routine photofluorographic examinations of the chests of dependents of naval personnel.
BuMedInst 6224.2	Mobile photofluorographic and roentgenographic bus units; policy relative to.
BuMedInst 6224.3	Tuberculin testing of Medical Department personnel assigned to hospitals for duty on the staff.
BuMedNote 6230	Influenza vaccine; use of.
BuMedInst 6230.1	Immunization requirements and procedures.
BuMedInst 6230.2	Immunization requirements and procedures; Japan and Korea.
BuMedInst 6230.3	Globulin, poliomyelitis, immune (human), for the prophylaxis of acute anterior poliomyelitis in dependents of military personnel.
BuMedInst 6230.4	Globulin poliomyelitis, immune (human), for the prophylaxis of acute anterior poliomyelitis in dependents of military personnel.
BuMedInst 6230.5	Globulin, poliomyelitis, immune (human), Stock No. 1-605-525 for the prophylaxis of acute anterior poliomyelitis in military personnel and in dependents of military personnel.
BuMedInst 6710.7A	Yellow fever vaccine; procurement of.

Sanitation

SecNavInst 4063. 1	Food-Sanitation Training Program.
BuDocksInst 5450. 5	Standard Organization of District Public Works Offices; changes in (DD-500).
AOInst 5611. 2	Maintaining sanitary conditions in Navy-occupied buildings.
BuSandAInst 7200. 2B	Quartermaster Market Center purchase orders for delivery to Navy; revised procedure.
BuShipsInst 9340. 9	Steam tables and kettles, improper installation of fresh water supply, drain and vent connections, correction of.
BuShipsNote 9350	Laundry washing machines, fresh water connections.
BuDocksInst 11014. 1	District Public Works Office Maintenance Engineering, Inspection and Special Projects Division; Information concerning maintenance standards. (To District Public Works Officers BuDocks Directors Overseas Divisions)

Insect and Rodent Control

SecNavInst 5420. 17	Assignment of pest-control responsibilities and establishment of the Department of the Navy Committee on Pest Control.
BuDocksInst 5450. 8	District Public Works Office, Pest Control Division (Code DD-600); functions of.
BuSandAInst 6250. 1	Powder Post (Lyctus) Beetle; detection and control of.
SecNavInst 6250. 1	Pest control in civilian communities; policy concerning naval assistance.
BuMedInst 6250. 1	Rodenticides.
OpNavInst 6250. 2	Dispersal of insecticides by aircraft.
SecNavInst 6250. 2	Nonstandard pesticides and pesticide dispersal devices; procurement and utilization of.
BuMedInst 6250. 2A	Disinsection of naval vessels and aircraft.
BuMedInst 6250. 3	Insecticides; precautions in use of.

Industrial Health

BuMedInst 6200. 4	Methyl Alcohol; hazards of
BuMedInst 6200. 5	Carbon tetrachloride and other chlorinated hydrocarbons.
BuMedInst 6260. 1	Occupational health and accident prevention programs.
BuMedInst 6260. 2	Water and salt requirements for personnel working in hot environments and hot climates.

Industrial Health (continued)

BuMedInst 6270. 1	Oxygen cylinders; precautions in storage, handling, and use of.
BuMedInst 6470. 2	Air and breath samples for radon content; collection and shipping of.

Laboratory Facilities and General

SecNavInst 5605. 1	Free exchange of publications between the Department of the Army and the Department of the Navy.
BuMedInst 5605. 1	NavMed publications; current list of
BuMedInst 6200. 1	Joint utilization of certain Armed Forces medical laboratory facilities.
BuMedInst 6200. 2	Public Health Service; liaison with.
BuMedInst 6200. 3	U. S. Navy Preventive Medicine Units; functions of and methods of requesting the services of.
BuMedInst 6510. 1A	Armed Forces Institute of Pathology.
BuMedInst 6510. 2	Armed Forces Institute of Pathology; central facilities provided by Department of Defense.
BuMedInst 6510. 3	Laboratory services available at U. S. Naval Medical School, National Naval Medical Center, Bethesda 14, Maryland; directions for utilization of.

Tuberculosis Control

Annual Chest X-ray Survey of a Naval Shipyard

The following is a report of the photofluorographic chest x-ray survey conducted at Puget Sound Naval Shipyard during 1953.

A total of 16,351 films were taken; men were stripped to the waist, women were examined through the clothing, with quite satisfactory results.

The 70 mm. films were interpreted and those showing any suspicious chest findings were rescheduled for 14- by 17-inch films. In the event any significant findings were confirmed by the 14- by 17-inch re-examination the individual was scheduled for a clinical study during which a complete history was obtained and physical examination was conducted. Disposition of these individuals was made in the following manner:

(1) Potentially active tuberculosis.--The patient, a summary of history and physical findings, and films were referred to the Public Health Chest Clinic where sputum studies and an evaluation were made. Active cases were handled directly by the Public Health authorities and hospitalization was recommended by them.

(2) Undetermined pulmonary activity. --The individual and x-ray film were referred to the Public Health authorities, who responded with a letter containing an impression and recommendations as to follow-up studies. These cases then remained under study until either activity or inactivity definitely was determined.

(3) Pulmonary findings of a nontuberculous nature. --The patient was advised to consult his family physician, to whom a summary of the findings and films were sent, with a request for his summary of the case and disposition. In almost all instances excellent cooperation was obtained. The films and findings were invariably returned, and, when possible, all requests for follow-up studies were carried out to the mutual benefit of the shipyard and the individual employee.

A total of 1,273 re-examinations with 14- by 17-inch films were made for suspected pathologic changes. Two hundred and nine clinical studies were conducted, resulting in 12 persons being hospitalized for active tuberculosis, and 6 other individuals underwent thoracotomy for such conditions as bronchogenic carcinoma, dermoid cyst, hamartoma, Boeck's sarcoid, and a nonspecific coin lesion. Other findings of clinical importance included:

Cardiac enlargement	11
Dilation of thoracic aorta	18
Hilar and mediastinal mass	11
Pneumonitis	5
Pulmonary fibrosis--severe	9
Aortic aneurysm	4
Pulmonary cysts	3
Atelectasis	4
Diaphragmatic hernia	1
Aneurysmal dilation of pulmonary artery	1
Calcification of the pericardium	1
Calcified aortic plaques	1
Bronchiectasis	2
Adenocarcinoma, left bronchus	1
Intrathoracic thyroid	1
	73

Along with the discovery of such a wide variety of clinical entities, a most important aspect of the survey has been the excellent liaison established between the medical department of the Puget Sound Naval Shipyard and the Public Health Agency of Kitsap County, Washington. This Public Health Agency handled all aspects of required hospitalization, all sputum and gastric studies, and the examination of all the outside shipyard contacts. A like liaison has been established with Public Health departments of the Seattle-Tacoma area for employees living in Pierce and King Counties.

A most vital fact is that over 33% of Kitsap County's population is employed at the Shipyard, placing this naval installation in a very enviable position regarding tuberculosis control. Up to the present time 12 active cases of pulmonary tuberculosis have been found and hospitalized, and 3 currently are under continued study, giving a ratio of approximately 1 case per 1,000 examined. In a discussion with Public Health authorities concerning this ratio the general consensus is that the Yard frequency is no higher than the rest of the county, but that a diligent preventive x-ray program has brought to light innumerable cases which might otherwise have escaped detection.

It is believed that an annual yard photofluorographic survey is of extreme importance not only as an aid in the early discovery of active cases of tuberculosis; but also as a means of facilitating early recognition of many nontuberculous disorders; and because the cataloging of the chest condition of each employee provides reference information in possible future cases of employer-employee litigation. Also, excellent liaison with Public Health agencies is of paramount importance.

Venereal Disease Control

Management of Venereal Diseases

Changes and improvements in venereal disease management have occurred very rapidly during the past several years. Therefore, the following information is presented as current approved management procedures. Much of the material included below was abstracted from "Management of Venereal Disease," a recent publication of the U. S. Public Health Service. A few minor modifications and additions have been made to the techniques described in the Public Health Service publication in order to make them adaptable to the needs of the Navy. It is recommended that the information given be used as a guide in the management of the venereal diseases.

In this issue of the News Letter gonorrhea and syphilis are considered. The Preventive Medicine Section of the 5 March 1954 issue of the NewsLetter will discuss the management of the other venereal diseases, chancroid, granuloma inguinale and lymphogranuloma venereum, as well as nongonococcal urethritis.

Ordinarily, patients with uncomplicated gonorrhea should be treated as out-patients. The usual patient should require no more than 1 visit to the sickbay during which smears and/or cultures may be taken, treatment given, and the interview for contacts completed.

GONORRHEA

Laboratory Diagnosis:

In the female--by culture

In the male--

Acute gonorrhea--by culture or by smear

Chronic gonorrhea--by culture

Treatment:

Uncomplicated gonorrhea--procaine penicillin G in oil with 2 percent aluminum monostearate (PAM) 600,000 units in one intramuscular injection.

Gonorrhea with complications--aqueous penicillin G, 600,000 to 1,200,000 units per day at 2- to 4-hour intervals or equivalent amounts of repository penicillin until signs and symptoms have subsided.

Re-treatment:

If discharge in uncomplicated gonorrhea persists for 3 days or more after initial treatment and smear or culture is still positive, re-treat with single injection of 1,200,000 units or 2 injections of 600,000 units on alternate days.

Serologic Test for Syphilis (STS):

Before treatment and 6 months following treatment.

If relapse occurs, it usually will be seen in the first week after treatment. Penicillin-resistant strains of gonococci have not yet been seen in vivo. Occasionally what appears to be penicillin resistance is a reinfection contracted from a regular sex partner who has not been given treatment. Frequently, cases of nongonococcal urethritis are mistaken for penicillin-resistant gonorrhea.

SYPHILIS--Diagnosis

Pretreatment laboratory test requirements:

Primary and secondary syphilis

Darkfield examination, serologic tests, TPI test

Other stages

Serologic tests, TPI test, and spinal fluid examination

SYPHILIS--Treatment

Suggested schedules:

Primary and secondary

PAM--4,800,000 units (1st injection 2,400,000, divided between both buttocks; 2nd and 3rd injections, 1,200,000 each; given at 2- to 4-day intervals)

Latent, cardiovascular, gummatous, and osseous

PAM--4,800,000 units (1st injection 2,400,000, divided between both buttocks; 2nd and 3rd injections, 1,200,000 each; given at 2- to 4-day intervals)

Neurosyphilis

PAM--10,800,000 units (900,000 every 24 hours for 12 doses)

Early congenital (less than 2 years)

PAM--1,500,000 units (150,000 every 24 hours for 10 doses)

Late congenital

Same as for comparable manifestations of acquired syphilis.

SYPHILIS--Post-treatment Observation*

Primary, secondary, early congenital

Serologic tests for syphilis (STS) monthly for 6 months; at 9, 12, 18, 24, 36, 48, and 60 months

Cerebrospinal fluid test (CSF) at 12 and 60 months

Latent, cardiovascular, gummatous, osseous, late congenital

STS at 6, 12, 24, 36, 48, and 60 months

CSF at 12 and 60 months

Syphilis in pregnancy

STS monthly, if possible; essential during last month of pregnancy

Neurosyphilis

STS at 3, 6, 9, 12, 18, 24, 36, 48, and 60 months

CSF at 3, 6, 9, 12, 18, 24, 36, 48, and 60 months

*Clinical examination is a necessary accompaniment of laboratory testing at each interval.

SYPHILIS--Indications for Re-treatment

Primary, secondary, or early congenital

Recurrent lesions; maintenance of STS at or slightly below pretreatment level at 6th month; a fall in titer followed by a rise in titer; positive spinal fluid

Latent or late congenital

In absence of clinical findings, re-treatment is recommended only if sustained rise in serologic titer or spinal fluid positivity is noted

Central nervous system and other late manifestations of syphilis

Consult current literature on subject.

Re-treatment schedule

Double the original dosage is recommended

Repeat spinal fluid examination prior to re-treatment in any stage.

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